REMARKS/ARGUMENTS

In a Final Office Action dated November 9, 2007, claims 14, 32, 50 and 68 were objected to; claims 6, 7, 24, 25, 42, 43, 60 and 61 were rejected under § 112; claims 1, 8-13, 18, 19, 26-31, 36, 37, 44-49, 54, 55, 62-67 and 72 were rejected under § 103 over Perlman and Mor; and the remaining claims were rejected under § 103 over Perlman, Mor and various other references. Applicant has amended various claims to address the § 112 rejection and respectfully traverse the § 103 rejections and request consideration of the following arguments.

Claim Objections

Claims 14, 32, 50 and 68

Claims 14, 32, 50 and 68 were objected to because it was stated that "the true destination address" in the claims should be "a true destination address". Applicant has amended the claims as suggested.

§ 112 Rejections

Claims 6, 7, 24, 25, 42, 43, 60 and 61

Claims 6, 7, 24, 25, 42, 43, 60 and 61 were rejected under § 112 as the use of "words" appeared out of context. Applicant has removed the phrase, those overcoming the rejection.

§ 103 Rejections

Claims 1, 8-13, 18, 19, 26-31, 36, 37, 44-49, 54, 55, 62-67 and 72 were rejected under § 103 over Perlman in view of Mor. Claims 2-7, 20-25, 38-43 and 56-61 were rejected under § 103 over Perlman in view of Mor and further in view of Soumiya. Claims 14, 16, 32, 34, 50, 52, 68 and 70 were rejected under § 103 over Perlman, Mor and Fredericks. Claims 15, 33, 51 and 69 were rejected under § 103 over Perlman, Mor

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and Lee. Claims 17, 35, 53 and 71 were rejected under § 103 over Perlman, Mor and Hongal. Applicant traverses the rejections.

Claims 1, 19, 37 and 55

The claims all require a switch which includes a plurality of interconnected switching units coupled to the ports. The Final Office Action asserts that three separate switches 26, 27 and 28 in Mor together comprise a multi-tier switch. Applicant vigorously traverses this statement. Applicant requests reference to paragraph [0053] and Figure 7 of the instant application. There the Applicant clearly distinguishes individual, separate switches, such as those in Mor, with a multi-tier switch as required in the claims. Applicant submits that it is improper to use hindsight to simply combine clearly independent switches and label them as a multi-tier switch, in direct contravention to the definitions provided by the Applicant.

The Final Office Action addresses this argument by stating that the switches 26, 27 and 28 all fulfill a statement made in Applicant's paragraph [0053] that each switch may possess distinct routing functions. While Mor's switches do meet that statement, and indeed must as they are free-standing, independent units, that statement is not the controlling definition of a multi-tier switch. Therefore the statement in the Final Office Action is simply inapposite and Applicant's arguments have not been rebutted.

Further, the proposed combination in the Office Action destroys any meaning to the concept of fabric. As known to one skilled in the art, a fabric is formed by a series of independent switches. The proposed combination technique of the Office Action destroys the meaning of fabric by arbitrarily combining independent switches into a "multi-tier" switch, when the switches are clearly independent to form the fabric. It is improper to relabel the switches as proposed as it is clear that they are clearly intended in Mor to be independent switches, not a switch including a plurality of interconnected switching units as in the claims.

Further, when the combination with Perlman is considered, the proposed combination of the Mor switches would not include information about each of the interconnected switching units. Perlman teaches adding information to the explorer

messages for each bridge connecting two network rings. When the combination of the Office Action is performed, the three switches of Mor would collapse to be a single bridge in Perlman, which would then only identify the bridge between the WAN 24 and the user 40. Thus no internal switching unit information would be provided or necessary, as such information would not be needed to perform the source routing of Perlman. The only time Perlman would add information about each switch of Mor is if the switches were independent, but then the required included plurality of interconnected switching units would not be present.

The Final Office Action responds to this argument by stating that in Perlman every unit adds information, so when the Mor switching units are traversed their information would be added. It concludes with a statement suggesting that the Final Office Action considers the arguments to be against the references individually. However, those remarks apparently misconstrue Applicant's argument. Perlman only adds information when a network ring boundary is crossed, as it is a bridge. If the switches of Mor are collapsed as required in the Final Office Action, there would only be one transition equivalent to that of Perlman, and Perlman then would just identify the multi-tier switch as a unit, not the individual switches which compose the multi-tier switch as required in the claims. Applicant is not addressing the references individually but combining them as stated in the rejection and then applying the teachings of the references.

Applicant submits that the proposed combination of Mor is improper and, if performed, still does not teach the requirements of claims 1, 19, 37 and 55. Applicant therefore requests withdrawal of the rejection and allowance of all claims.

Claims 11, 29, 47 and 65

Claims 11, 29, 47 and 65 require the fabric manager to select the port to transmit the tracer frame based on normal routing rules. The Office Action cites col. 3, lines 31-33 and 54-55 in rejecting the claims. Applicant traverses the rejection. The cited portions of Perlman relate to ordinary messages. Those normal messages do not have any of the required additional information of the claim added to them. Thus their

operation is not relevant to the claims. Further, they do not relate to the explorer messages discussed at col. 5, lines 29 to col. 6, line 8. Perlman, at col. 5, lines 63-65, specifically notes that the modified explorer message is forwarded to all connected LANs, except the source LAN. Thus Perlman indicates that explorer messages use very special routing rules, not the normal routing rules required by these claims.

The Final Office Action responds by indicating normal messages include source and destination addresses and are related to explorer messages and normal routing rules are used. The remarks ignore several portions of Perlman quoted below:

> While the above describes the typical mechanism for routing packets in a LAN/bridge network, it does not explain how the routes are determined. This is typically accomplished by means of "explorer" messages. (col. 5, lines 29-32)
> Through a procedure described below, copies of the explorer message are propagated through all of the bridges and LANs in the network, exploring every possible route through the network.... (Col. 5, lines 36-39)
> Explorer messages are subject to a special procedure when received by bridges. (col. 5, lines 55-56)
> ... and then forwards 132 the modified version to all connected LANs (except the LAN from which the packet was received). (col. 5, lines 62-65)

Thus Perlman itself makes it very explicit that explorer messages do not use normal routing rules. The remark about "related" is also misplaced because the claims specifically require using normal routing rules on the frames which include the added information, which are not the messages of col. 3, lines 31-33 but are the explorer messages. Perlman explicitly says explorer frames use special procedures. How "normal" frames as in col. 3, lines 31-33 are routed is not the subject of the claims, so the entire argument advanced in the Final Office Action is not relevant to the claims.

Applicant submits that claims 11, 29, 47 and 65 are allowable.

Claims 12, 30, 48 and 66

Claims 12, 30, 48 and 66 require the frames to include source routing information and that the ports transmit them based on the source routing information. The Office Action cites col. 3, lines 31-33 and 54-55 in rejecting the claims. Applicant traverses the

rejection. The cited portions relate to ordinary messages. Those normal messages do not have any of the required additional information of the claim added to them. Thus their operation is not relevant to the claims. Further, they do not relate to the explorer messages discussed at col. 5, lines 29 to col. 6, line 8. Perlman, at col. 5, lines 63-65, specifically notes that the modified explorer message is forwarded to all connected LANs, except the source LAN. Thus Perlman indicates that explorer messages use very special routing rules, not the source routing required by the claims.

Applicant notes that the Final Office Action did not respond to this argument so it is repeated.

Applicant submits that claims 12, 30, 48 and 66 are allowable.

Claims 13, 31, 49 and 67

Claims 13, 31, 49 and 67 require using normal routing rules if the source routing information does not indicate a directly connected device. The Office Action cites col. 3, lines 38-40 about the end system reading the message. Applicant does not understand how this citation relates to the claims. It does not involve routing at all. Further, as with claims 11 and 12, it is to a portion for normal messages, not explorer messages and therefore is further unrelated.

The Final Office Action responds by quoting from col. 3, lines 38-40 of Perlman, which simply indicate that if the message has reached its destination it is read. The Final Office Action then states that otherwise the message is forwarded using normal routing rules. Again Applicant does not understand how this relates to the claims being rejected. The claims relate to how the frame is routed if the source routing information does not indicate a directly connected device. The case of col. 3, lines 38-40 is not relevant to the claim at all. By definition the claim indicates that the frame is not at the destination as it must be further routed. Further, the Final Office Action did not address that the cited portion again only relates to normal messages, not explorer messages.

Applicant submits claims 13, 31, 49 and 67 are allowable.

Claims 14, 32, 50 and 68

Claims 14, 32, 50 and 68 require the frame to be destination addressed and the fabric manager to retrieve the true destination address from the payload. The Office Action combines Perlman and Fredericks to form the rejection. Applicant traverses the rejection.

Applicant first notes that the Perlman explorer messages are specifically addressed to the desired end point. To change them to being addressed to a well known address is not taught or suggested by Perlman and would completely destroy the fundamental operation of the Perlman explorer message. This is clearly a hindsight combination and goes against the teachings of the reference.

The Final Office Action effectively argues that hindsight is allowed if it only uses prior art information. Perlman specifically teaches that the explorer frame is addressed to the end node. The Final Office Action does not provide any support for this change other than "they both pertain to network communications" and "it would have been obvious." Perlman is a series of ring networks connected by bridges and routed using source routing. The Fibre Channel switch of Fredericks has no rings and does not use source routing but rather routes using FSPF based on the destination address. The references employ totally different techniques, sufficiently different that Applicant submits that the only place the Final Office Action could have looked to gain the required knowledge is Applicant's own disclosure, which the Final Office Action does admit is improper. Applicant requests some positive teaching in the references that teaches such a drastic redesign of each reference.

Fredericks relates to Fibre Channel RNID ELS messages. Referencing col. 6, lines 21-34, the addressing of the message is described. It states the message is preferably sent to the nearest neighbor node, though it also notes that any node can be addressed. The fabric controller well known address is only used if the nearest neighbor node is a fabric node, a special instance. Otherwise the message is addressed directly to the other node. Fredericks does not mention anything about retrieving the true destination address from the frame payload, and would not, as the frame is addressed to the relevant item. The Office Action appears to equate the command code in the RNID

ELS to the required true destination address, but that equivalence is simply incorrect when the meaning of true destination address is construed properly.

The Final Office Action responds to this argument by misinterpreting Table 1 in Fredericks. Table 1 lists the header fields, as stated at col. 5, lines 19-22. This directly contradicts the statement in the Final Office Action that Table 1 shows that the destination ID is retrieved from the payload as Table 1 only defines header fields, not any payload fields.

Applicant submits the rejection is improper and that the claims are allowable.

Claims 15, 33, 51 and 69

Claims 15, 33, 51 and 69 require there to be equal cost routes and the frame is transmitted over all such routes. The Office Action brings in Lee to reject the claims. Applicant traverses the rejection. While Lee may mention the existence of equal cost routes, it does not teach or suggest sending the frame over <u>all</u> of them as required in the claims. The cited portion of Lee is related to routing a frame around bottlenecks, so replicating the frame across all of the routes is actually opposed to Lee as that would teach adding many more frames to a congested network.

The Final Office Action responds by repeating the rejection and then mischaracterizing its teachings. The Final Office Action correctly quotes "partially use a number of shortest paths having the same cost" but then goes on to effectively state this means that the frames are transmitted over all of the equal cost paths. The Final Office Action has no support for the leap from "use a number" to "all." The Final Office Action clearly does not attempt to rebut Applicant's argument that using all of the paths would be contrary to the goal of Lee.

Applicant submits the rejection is improper and the claims are allowable.

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CONCLUSION

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Based on the above remarks Applicants respectfully submit that all of the present claims are allowable. Reconsideration is respectfully requested.

Respectfully submitted,

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